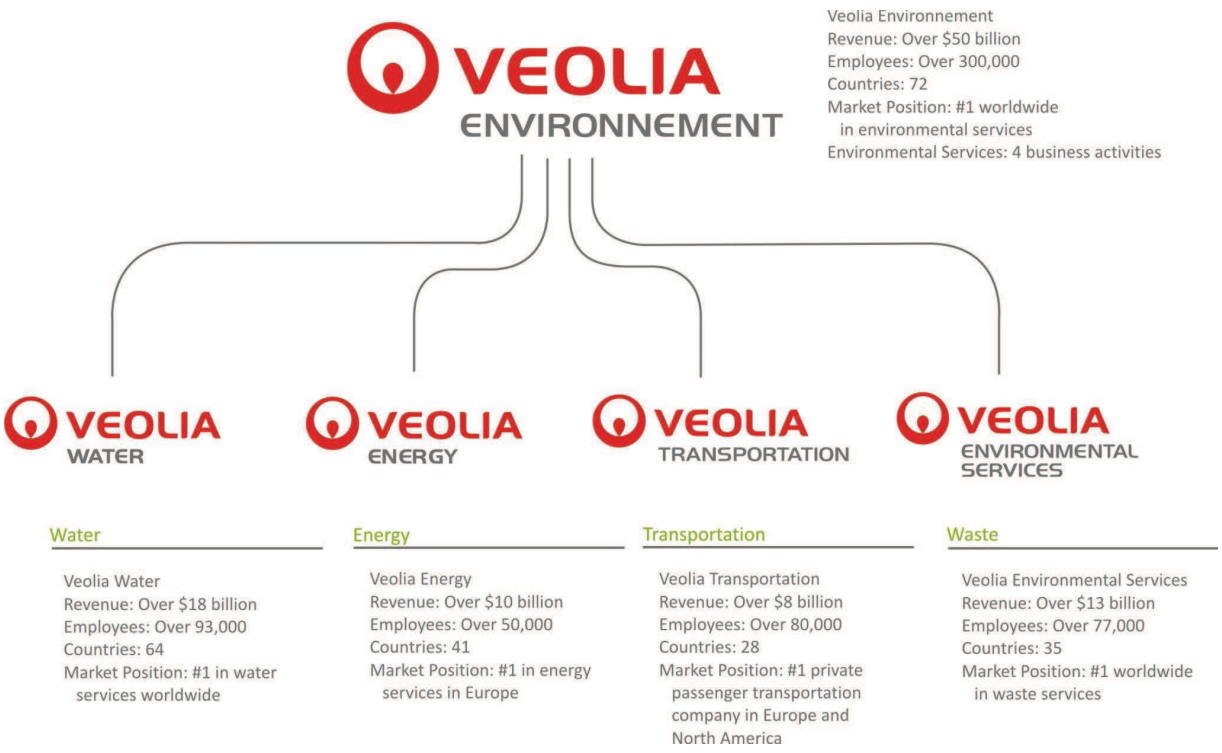
# Veolia Environmental Services Company Information

## Veolia Environnement




Veolia Environnement operates the environmental services business, with operations in more than 72 countries on six continents. Veolia Environnement provides environmental management services, including water treatment and system operation, waste management, energy services and power generation, and transportation services, to a wide range of public authorities and industrial, commercial and residential customers. Veolia Environment is the only company to provide total integrated environmental services including:

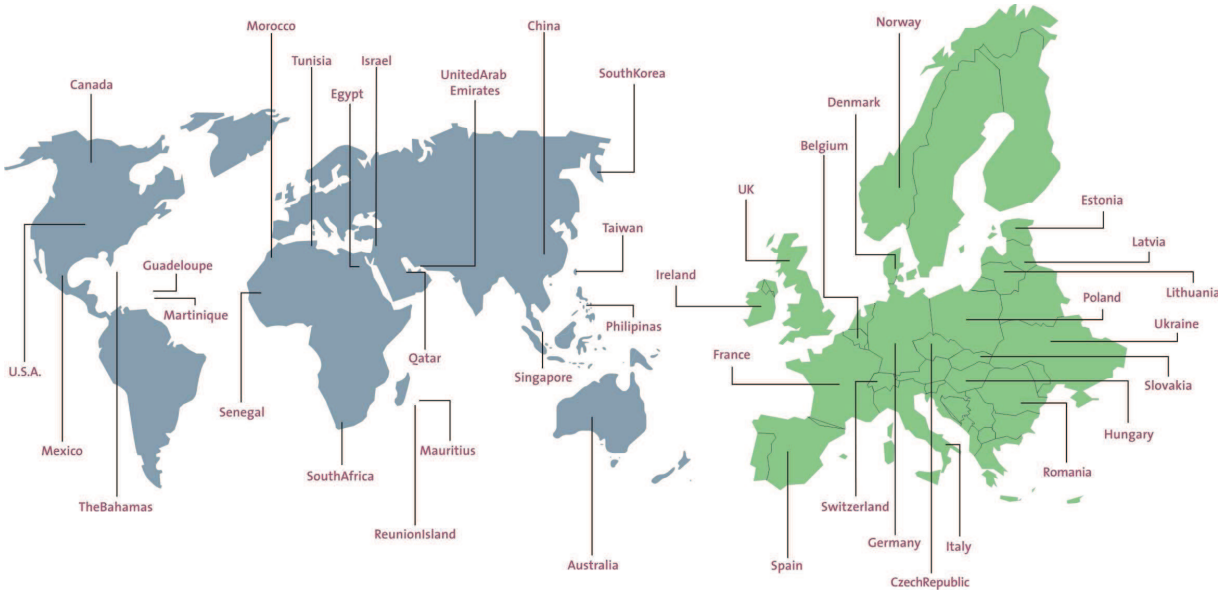
- Water
- Waste Management
- Energy Services
- Transportation

### Key Facts

- # 1 Worldwide in Environmental Services
- Net sales > $50 Billion
- Water: 36% of Revenue
- Waste: 26% of Revenue
- Energy:  21% of Revenue
- Transport:  17% of Revenue
- 325,000+ employees
- Operations in over 72 countries & on 6 continents

Web site: http://www.veoliaenvironnement.com

## VES Worldwide




Veolia Environmental Services, the waste management division of Veolia Environnement, is the world's second largest waste management company, with over 77,864 employees in 35 countries. We generated revenues of over 13 billion in 2009.

Veolia Environmental Services is the only company that handles all forms of waste, at every step in the waste management process. We manage liquid and solid, non-hazardous and hazardous waste, from collection to disposal and recycling, for both the public and private sectors.

### Key Facts

- No 1. Worldwide in waste management and world leader in hazardous industrial waste management.
- 2009 Revenues Exceeded $13 billion
- 864 Treatment facilities
- Established in 35 countries
- 86 million people served worldwide;
- 77,864 employees in 35 countries

Web Site: http://www.veolia-proprete.com

# Electronics Service Offerings

Veolia Environmental Services (VES) offers solutions for both large and small quantities of lighting and electronic waste. Whether customers participate in our "Bulk" recycling or "RECYCLEPAK®" prepaid recycling program, both are assured environmental compliance, liability protection and timely and responsive service. Our turnkey recycling programs include packaging, transportation, tracking documents, and waste processing, and recycling certificates for customers throughout the United States.

## Mercury-Bearing Lamps

| | |
|---|---|
| Straight fluorescent | U-tubes |
| Circular lamps | Compacts |
| HIDs | VHO power grooves |
| Shielded/coated | Ultra violets |

## Mercury Waste

| | |
|---|---|
| Thermometers | Thermostats |
| Relays | Manometers |
| Ignitron tubes | Flow meters |
| Rectifiers | Gas pressure regulators |

## PCB and Non-PCB Lamp Ballast

| | |
|---|---|
| Magnetic and Dimmable Fluorescent Ballasts | CFL Ballasts |
| Pulse Start Metal Halide Ballasts | Mercury Lamp Ballasts |
| Standard Metal Halide Ballasts | Electronic HID Ballasts |
| High and Low Pressure Sodium Ballasts | PCB and Non-PCB Ballasts |

## Batteries

| | |
|---|---|
| Alkaline | Nickel metal hydride |
| Mercury | Zinc carbonaire |
| Lithium | Nickel cadmium |
| Carbon zinc | Silver oxide |
| Magnesium | Lead acid/gel cell |

## PCB and Non-PCB Electronic Waste

| | |
|---|---|
| Transformers | Capacitors |
| Switches | Debris and oil |
| Cable | Bushings |

## Computers and Electronic Equipment

| | |
|---|---|
| Cathode ray tubes (CRTs) | PCs, mainframes, peripherals |
| Telephone systems | Generators |
| Medical equipment | Wire |
| Office equipment | Motors |

**VES also offers a full range of packaging for smaller quantities of lighting and electronic waste. Our RECYCLEPAK® program was designed was designed to handle small quantities of lamps, TSCA-exempt PCB and Non-PCB lamp ballast, dry cell batteries, mercury thermostats and computer CRTs. Contact your customer service or sales representative for additional details or visit www.prepaidrecycling.com for more information.**

## Services and General Operations

VES PCB, Ballast, Mercury and Lamp Recycling Operations operate from four nationwide locations. Permits, approvals, and specific site information are located in **Appendix A-D.** Service summaries provided are as follows:

| VES Location | Permits and Approvals for Processing |
|---|---|
| Port Washington, WI | Lamps and Mercury Retort |
| Stoughton, MA | PCB Ballast, Lamps and Mercury Retort |
| Tallahassee, FL | Lamps and Mercury Retort |
| Phoenix, AZ | PCB Transformers/Equipment, PCB Ballasts, Lamps and Mercury Retort |

**Each VES location provides:**

- Waste analysis and materials testing.
- Federal, state and local regulatory analysis.
- Delivery of empty waste storage containers.
- Loading and transportation of waste storage containers.
- Manifest, bills of lading, and labels where applicable.
- Recycling services as detailed above.
- Disposal of regulated liquid and solid waste to US EPA-approved facilities.
- Resale of metals, glass, plastics and valued material generated from recycling process.
- Tracking documents and Certificates of Recycling, Destruction, and/or Disposal.

## Corporate Office:

**Veolia ES Technical Solutions, L.L.C.**
**Electronics Recycling**
1275 Mineral Springs Drive,
Port Washington, WI 53074
Telephone: (262) 243-8900
Fax: (262) 284-3775

## Branch Offices:

**Veolia ES Technical Solutions, L.L.C.**
**Electronics Recycling**
5736 W. Jefferson Street,
Phoenix, AZ 85043
Telephone: (602) 233-2955
Fax: (602) 415-3030

**Veolia ES Technical Solutions, L.L.C.**
**Electronics Recycling**
218 Canton Street,
Stoughton, MA 02072
Telephone: (781) 341-6080
Fax: (781) 341-6088

**Veolia ES Technical Solutions, L.L.C.**
**Electronics Recycling**
342 Marpan Lane,
Tallahassee, FL 32305
Telephone: (866) 877-8299,
Fax: (850) 878-3349

# Waste Acceptance / Tracking System

## System Description

Veolia Environmental Services (VES) facilities and branch offices are equipped with IBM-compatible computers inter-linking sales and customer data tracking software. The software permits VES customer representatives to access and evaluate state and local regulations, survey transport/cost options, track customers' project status and prepare specifications, cost estimates, proposals and quotations. It also assures appropriate and timely response and follow-up in all these matters. VES facilities are also equipped with computers utilizing proprietary software programs to track the handling of a generator's waste from its source to its final disposition. Transportation, waste analysis, process, waste streams, metals and glass recovery and disposal data as well as dates, time, unit counts, weights, volume measurements, etc. are all accumulated by the system and used to produce generator reports.

## Initial Waste Evaluation / Acceptance

Specific waste evaluation and acceptance procedures are employed by VES to qualify a generator's waste for acceptance and to ascertain RCRA and TSCA status quantity, weight, aging, chemical, physical and metals yield data necessary to in turn determine:

- Federal and State regulatory status or requirements
- Method of containerization
- Appropriate container labels / placards
- Method of loading / transportation
- Appropriate shipping documents
- Disposal method for glass and metals
- Disposal method for phosphor / mercury
- Cost and subsequent pricing

To complete the evaluation, VES obtains basic information from the generator regarding the material to be recycled. From this information the material will be assigned to the appropriate waste category as defined in the VES Waste Acceptance program. Based on the type of material the generator of the waste may be required to complete and sign a waste stream profile sheet for evaluation prior to the acceptance of the material. Since the majority of materials recycled by VES are manufactured articles, VES typically does not require samples of wastes. However, in some cases where the waste characteristics are not readily quantifiable, a representative sample, material safety data sheet, manufacturer's model number or other manufacturer's data, which will satisfactorily characterize the waste, will be required, at VES's discretion, prior to acceptance by VES. A Customer Service Representative will convey the decision as to acceptance or rejection, special stipulations for acceptance, etc., to the customer by telephone or in writing subsequent to the evaluation.

## Pre-Shipment Waste Handling Procedures

Upon receipt of a credit account verification or completion of an alternate agreement as to method of payment, and receipt by VES of a signed quotation, proposal or purchase order, VES will notify the customer of such receipt and the following will occur:

In advance of the desired collection date, the customer will contact VES's logistics group to request pick up of the material or, in the case of delivery by the customer, the may notify the facility in advance of the intended delivery date. Before collection or delivery occurs, the customer will provide the VES with the following information:

- Type and quantity of containers
- Material classification(s)
- Scaled or estimated weight(s) and/or counts
- Date(s) accumulation began
- Labels, placards and markings on containers
- Generator's USEPA ID number
- Generator's state ID number, if applicable
- Transporter ID numbers, dates and times, if the delivery is arranged by the customer.

VES will create a customer file, work specification and a work order number to be assigned to each shipment. The work specification concerning transportation, recycling, processing, disposal and special handling required will be entered into VES's waste tracking systems and distributed to VES's sales, logistics, production, accounting and technical personnel. The appropriate Federal or State manifest, non-hazardous waste manifest or bill–of–lading and container ID and label sets will be completed to the extent possible and either express-mailed to the customer prior to scheduled shipment or sent to accompany the transport vehicle.

## Post-Shipment Waste Handling Procedures

Upon arrival of a shipment at a VES facility, the following sequence of events occurs:

1. The truck is directed to the receiving dock where VES logistics and technical personnel compare shipping documents and material description against the material profile sheets, work specifications, and the material actually received.
2. All containers are visually inspected and further screened, if deemed necessary using portable mercury analyzers or other methods deemed appropriate for the waste type. Samples may also be collected and submitted to an off-site laboratory for additional analysis.
3. If the shipment conforms to the material profile and work specifications, the shipping document is signed and the truck unloaded. Copies of the bills-of-lading or manifests are then forwarded to the generator and customer, if they are not the same, within the time frame specified in the regulations. Should VES reject any portion or all of a shipment the shipment will be returned to the generator or another site selected by the generator, on the same truck.
4. Upon off-loading, each container is weighed and placed into the process or into a storage area pending processing. A VES receiving record is executed to record all pertinent information.
5. Dependant on the type of material the shipment will be processed on a batch or per container basis and tracked as appropriate thereafter.

## Reporting and Record-Keeping

VES is held to specific record-keeping and reporting requirements dependent upon location by local, state and federal regulations. VES maintains records in accordance with all applicable permits and operating agreements, documenting the receipt of waste, including quantity, source (generator and/or transporter), date and time received, the amount of waste in storage and the types of recovered materials, products and waste from processing which are shipped from VES's facilities. The company will retain in its possession all records, document reports and data related to its operation for at least three years.

## Training / Health / Safety

## Employee Training Policy

All new company personnel are required to satisfactorily complete occupational safety training prior to assignment to work stations or groups. Such training is conducted by VES personnel and includes major topics such as:

- Specific characteristics of hazardous chemicals and waste with emphasis on mercury.
- The general purpose and scope of community and employee right-to-know laws.
- The intent and scope of RCRA and TSCA.
- Recommended transportation, handling and storage procedures for hazardous chemicals and waste with emphasis on mercury.
- Emergency response procedures and site-specific contingency plans.
- Operation of waste reduction, material recovery and metals refining equipment.
- Identification of unsafe operating conditions and utilization of personal protective equipment.
- Spill control and loss prevention methods.
- OSHA regulations for general employee safety.

Employees working within RCRA permitted storage areas are required to undergo 24 hours of formal training starting at their date of employment or the date of their assignment to that task. If on-the-job training is utilized to accomplish specialized training during this initial period, the employee will neither be permitted nor assigned to work in any unsupervised position until he or she has completed the training outlined above.

## Health Surveillance

VES will conduct a complete health surveillance program addressing the four major areas of Pre-employment physical examinations, Employment physical examinations at hire, Annual physical examinations during employment and Exit physical examinations at termination of employment. VES contracts for health surveillance services utilizing locally approved medical centers supervised by a national occupational medicine provider.

## Facility Inspections

Inspections are conducted by VES personnel on a routine basis and recorded on appropriately designed checklists Exceptions to standard conditions are corrected immediately. Inspection frequencies are based upon maximum deterioration rates and realistic probabilities that any given equipment malfunction or failure will impact human health or the environment. Areas subject to spills such as loading/off-loading; waste reduction, recycling and storage areas are inspected daily. VES's facility inspection plans were developed to address the types of problems associated with both the materials VES handles and the equipment used in their related processes. The general classifications of equipment covered in these plans are as follows:

- Monitoring equipment
- Logistics control equipment
- Recycling processing equipment
- Laboratory equipment
- Spill & decontamination equipment
- Material handling equipment
- Storage bins, conveyors & feed chutes
- Storage & containment systems
- Safety equipment
- Fire protection equipment
- Security equipment
- Structures

## Safety Program

A major element of VES's Hazard Reduction Program is the emphasis on personnel safety and the assurance of safe practices. VES provides copies of safety policies and procedures to all employees. Training pertaining to employee safety is generally conducted as outlined previously. Additional safety meetings are conducted periodically and as needed. Personal protective equipment is maintained and provided by VES to all personnel required to use the equipment. Basic equipment includes:

***Safety glasses, hearing protection, safety-toe boots, Tyvek disposable coveralls, Nitrile gloves, cut resistant gloves and sleeves and appropriate respiratory protection that may include dust masks, cartridge respirators or supplied air respirators.***

Emergency equipment includes:

- ABC dry chemical fire extinguishers located throughout the facilities, including office areas.
- Spill control and clean-up materials maintained within the warehouse areas.
- First aid and basic medical supplies.

## Contingency Plan/SPCC Plan

Contingency plans have been prepared for each facility. SPCC plans have been prepared for each facility subject to the SPCC planning requirements. The contingency plan describes the planned, organized and coordinated course of action personnel will follow in the event of a threat of or actual incident of fire, explosion, spill or other release of hazardous material(s) which could threaten human health or the environment. Various sections of the plan address:

- Personnel/tasks
- Emergency response procedures
- Control procedures
- Post-emergency procedures
- Incident reporting
- Emergency equipment

- Evacuation Plan

The plans identify at least two emergency coordinators who are authorized to commit resources necessary to expediently and effectively implement the plans. The following public assistance facilities/agencies have been identified and are an integral part of the emergency plan:

- National Response Center
- EPA
- State Regulatory Agencies
- Local Fire Department
- Local Police Department
- Local Hospital

Fire/evacuation drills are conducted at random times throughout the year. Copies of VES's contingency and SPCC plans can be provided to prospective customers upon request.

# Process Descriptions

## Lamp Recycling Process:

Although there are variations between the equipment used at each facility all lamp-recycling processes utilize a dry separation process. Each machine is capable of processing 20,000 to 40,000 4-foot lamps per 8-hour shift with an asset recovery rate of approximately 100%. Of total bulb weight, roughly 96% is recovered as glass, 2% as aluminum, less than 2% as phosphor powder and less than 1% as mercury for refining. Routine monitoring of mercury values in all recovered materials, through TCLP and total mercury testing techniques, is standard operating procedure. The system utilizes dry crushing, dry separation and dry filtration operations. Lamps are brought into the recycling area on wrapped pallets, within cardboard boxes or lamp fiber drums. The lamps are brought to the lamp feed staging area where they enter the recycling process. In-feed to the process consists of manually opening the packaged containers and placing the lamps into the feed mechanism. The lamps are conveyed into a chamber where a breaker performs an initial particle size reduction of the lamps. Broken lamp pieces are then crushed to achieve a greater particle size reduction and transferred to a primary separator to separate the larger components (aluminum end caps). The remaining components are then further separated generating three process streams, glass cullet, glass fines, and phosphor powder.

The Vapor Collection System is designed to control mercury vapor and dust emissions from the process. The vapor collection system is comprised of a bag house/cartridge filter equipped with a series of particulate filters, an air compressor for filter back purge, and an activated carbon vessel. The system draws mercury vapor and dust from the process equipment into the bag house. The filter arrangement is designed to trap 99.99% of air-borne particles measuring 0.5 microns or larger. Dust accumulates in containers located underneath the bag house. The air stream leaving the bag house then passes through a sulfur-impregnated carbon vessel to further remove mercury vapors. Each stack is monitored using a real-time mercury vapor-monitoring instrument in accordance with facility's specific operating permit/plan.

## Environmental Controls

Environmental controls are required because of the toxicity of mercury. Mercury is a contaminant when introduced into the atmosphere, the soil or groundwater. The following controls are installed to minimize the hazard associated with handling of the lamps during the process: If lamps are broken in shipment, particulates, which may work their way out of shipping containers, are containerized for processing through the lamp recycling equipment. A portable Jerome mercury vapor analyzer is used to monitor mercury vapor concentrations in the air throughout the workplace, on a daily basis. Flow diagrams are available in the facility specific section.

# Mercury Recovery Retort Operations

## Systems Capacity

System capacity is dependent on the type of material being processed. VES can operate 24 hours a day, seven days per week to meet customer needs. VES's processing capacity is approximately 1000-Cu. Yd per year.

## Process Description

All materials received are manually inspected. Preprocessing steps recover valuable non-contaminated recyclables such as glass, metals, and plastics. The remaining contaminated mercury debris is then retorted under vacuum. Retort time, temperature and cycle are dependent upon the composition of material to be retorted. Mercury from the retort operations is collected in a system tank and from this tank, 76-pound or metric ton mercury flasks are filled. Mercury is accumulated and shipped to a mercury supply house for purification and packaged for resale.

## Environmental and Safety Controls

The processing room is kept under negative pressure relative to ambient. This is done to prevent the release of mercury vapor to the environment. A Jerome mercury monitoring system is in place to gauge mercury levels in the process room, and the process air scrubbing systems. Operational parameters are monitored. The company recognizes and fully appreciates the high levels of liability exposure associated with virtually every kind of business in today's world. It also recognizes its responsibility to its customers to minimize their ultimate liability, as well as its own. Accordingly, it has taken a number of carefully considered measures to accomplish this:

- In-house liability prevention responsibility is designated to oversee all aspects of liability exposure reduction, to assure well-organized and consistent accident response procedures and to assure a proper level of written record keeping, particularly concerning inspection and testing.
- Sales agreements and other documents are carefully worded so as to minimize liability exposure.
- Pollution Legal Liability insurance coverage is an integral part of the company's liability insurance program.

## Waste and Materials Analysis Plan

The Waste and Material Analysis Plan outlines procedures for sampling and analysis of metals, glass and mercury/phosphor components derived solely from processed fluorescent, as well as the mercury retort operations. The plan provides a framework for routine analysis of all process materials and waste streams, beginning with sampling objectives and continuing through QA/QC protocol and final analysis of laboratory data. The plan is available upon request.

## Laboratory Analysis

Subcontracted laboratories provide analytical services to the Mercury Retort Operations to perform the following:

- Pre-qualification of customer waste, as needed
- Subsequent fingerprinting of waste shipments to determine conformity, as needed
- Post-analysis of process waste materials to determine mercury content
- Post-analysis of recovered materials to determine mercury content
- Metal alloy identification impurity
- Identification of non-conforming waste materials

When required, pre-qualification analysis (TCLP) usually is completed within 3 weeks of receipt of sample, profile sheet and other necessary paperwork. All analyses are subcontracted to state-certified laboratories.